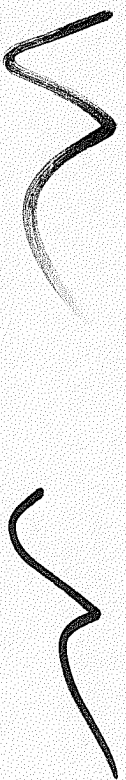
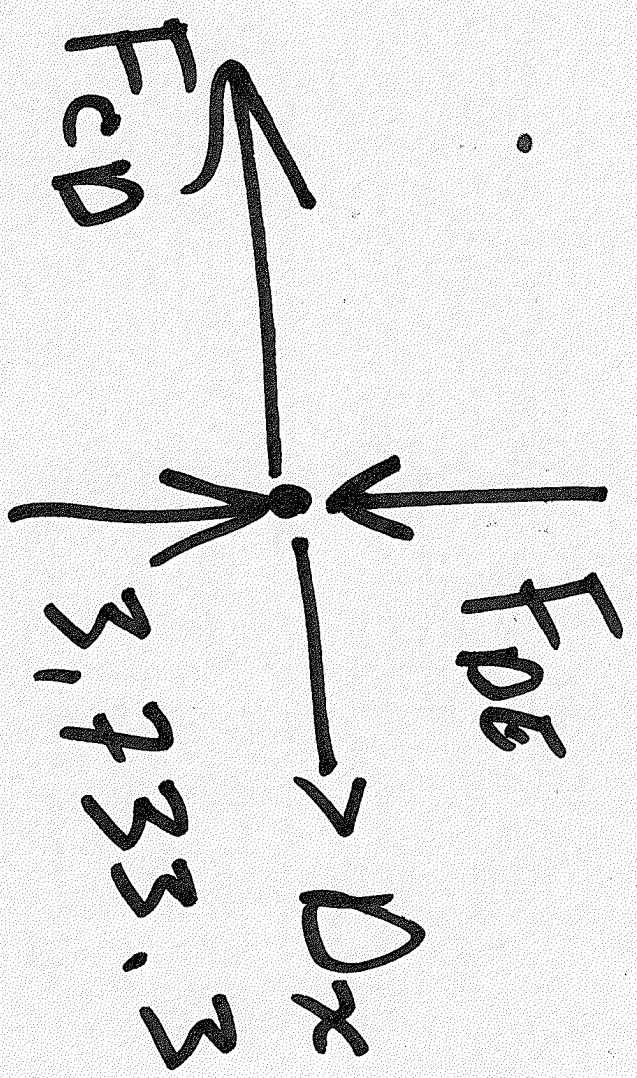


$$\begin{aligned}
 \Sigma M_c &= 0 \\
 6(D_y) - 6(8000) &+ 16(16000) = 0 \\
 D_y &= 3,733 \uparrow
 \end{aligned}$$



2

F.B.D.



$$\sum F_y = 0$$

$$D_x - F_{OE} +$$

$$3733.3$$

$$F_{OE} = 3733$$

$$\rightarrow (D)$$

$$\Sigma F_y = 0$$

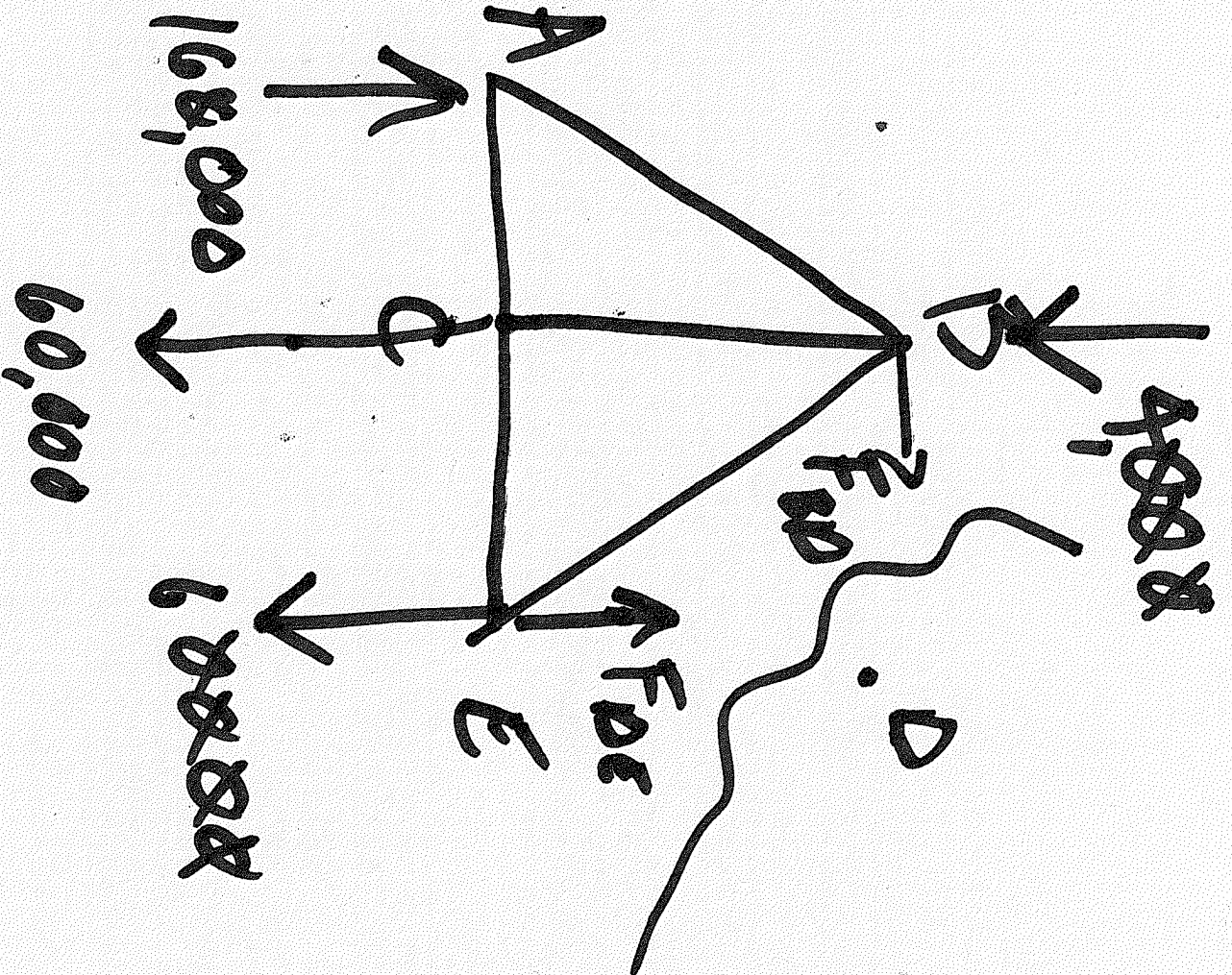
3/

$$A_y - 5(4\cancel{x}\cancel{x}\cancel{x}) - 5(6\cancel{x},\cancel{x}\cancel{x}) + L_y = 0$$

$$A_y = L_y$$

$$2A_y = 2\cancel{x},\cancel{x}\cancel{x} + 3\cancel{x},\cancel{x}\cancel{x}$$

$$A_y = L_y = 16\cancel{x},\cancel{x}\cancel{x}$$



M
T
K
D

168,000 - 68,000 - 68,000 5/

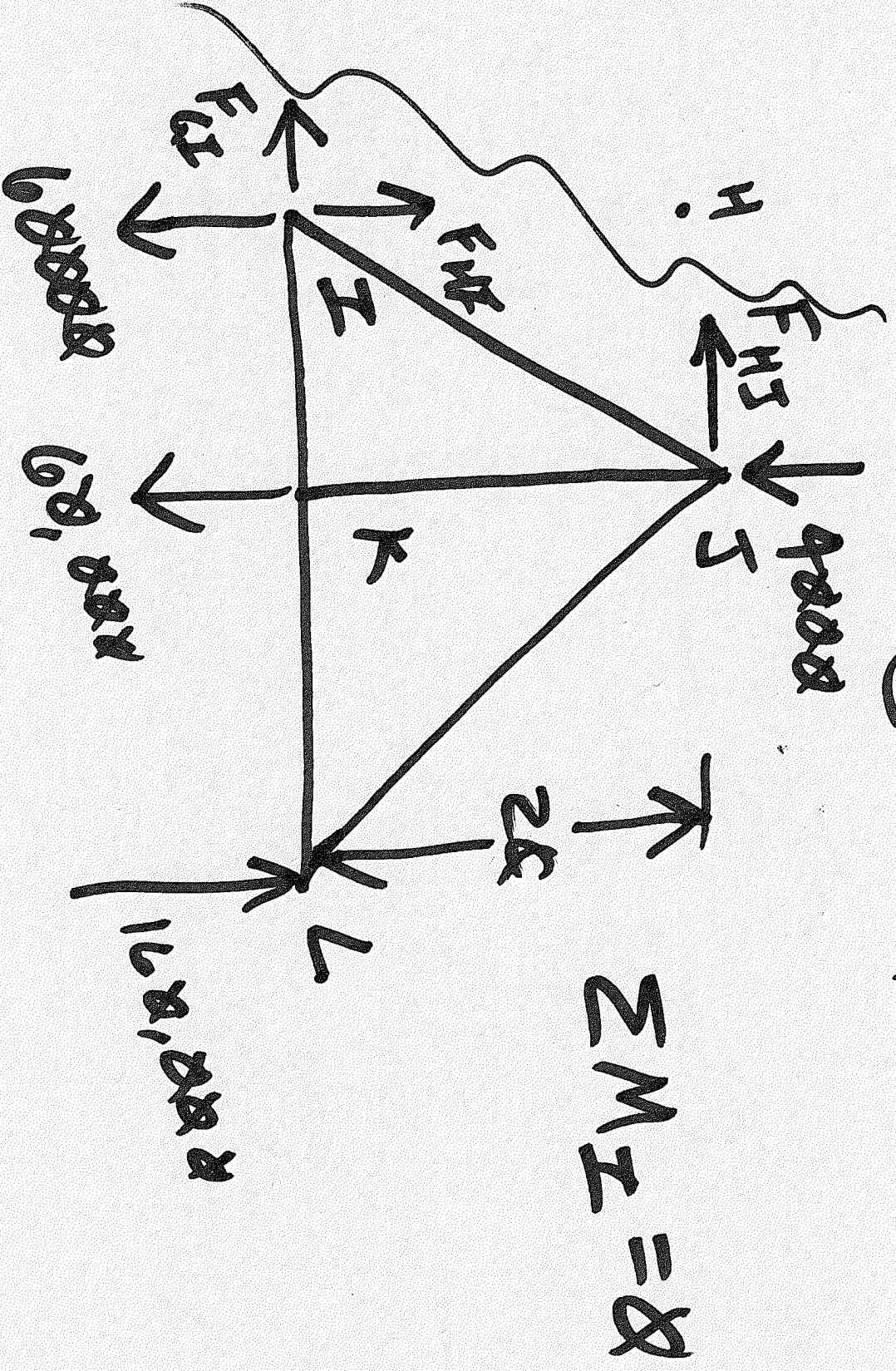
$$- 4,000 + DE = \cancel{0}$$

$$FDE = -36,000$$

→ (A)

• $H(I) = ?$

$\subset U \cap \odot H(I), H(I), \& G(I)$



$$\sum M_I = 0$$

7/

$$- 3x(6x, 2x) + 6x(16x, 2x)$$

$$- \cancel{3x}(4x) + 2x F_{HJ} = x$$

$$F_{HJ} = - 3x, 2x$$

$$\hookrightarrow (0)$$

$$\Sigma M_A = 0$$

3/

$$-9(4.5) - 9(18) + 27D_y = 0$$

$$-18(24) = 0$$

$$D_y = 23.5 \downarrow$$

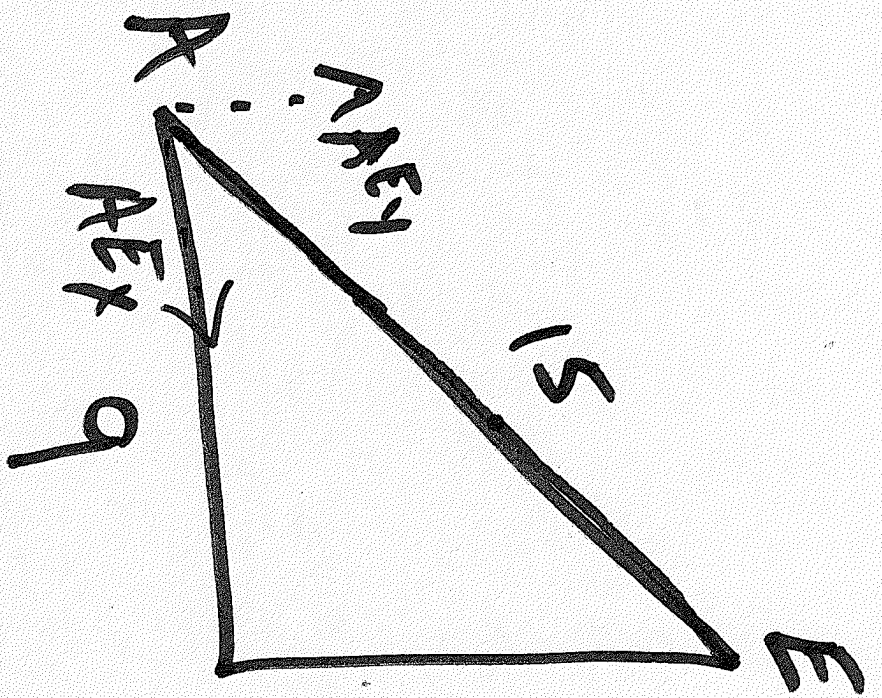
$$\Sigma F_y = 0$$

$$A_y - 18 - 4.5 - 24 + 23.5 = 0$$

$$A_y = 23.0 \downarrow$$

FORCE TRUSS 9/

(3-4-5)



@ PEN A

AEx

$$\frac{AEx}{12} = \frac{AEx}{9} = \frac{AE}{15}$$

$$AE_y = 23$$

23

$$\frac{AE_x}{9} = \frac{\cancel{AE_y}}{12}$$

$$AE_x = \frac{9}{12}(23)$$

$$\underline{AE = 28.75}$$

$$\frac{AE}{15} = \frac{\cancel{AE_y}}{12}$$

$$AE = \frac{15}{12}(23)$$

$$AE_x = 17.25$$

$$\begin{matrix} \swarrow & \searrow \\ AB & \end{matrix}$$

D

$$DF_y = 23.5$$

11

$$\frac{DF_x}{9} = \frac{23.5}{12}$$

$$DF_x = \frac{9}{12}(23.5)$$

$$DF_x = 17.63$$

↳ DC

$$\frac{DF}{15} = \frac{23.5}{12}$$

$$DF = \frac{15}{12}(23.5)$$

$$DF = 29.38$$

of

$$FE = DF_x = 17.63$$

$$FC = 24 - DF_x$$

$$FC = 24 - 23.5$$

$$\underline{FC = .5} \rightarrow (A)$$

13/

③ C

$$CE_Y = FC = .5$$

$$CE = \frac{15}{12} (.5)$$

$$CE = \cancel{8.625}$$

$$\rightarrow (B)$$



44-4

14

$$\begin{aligned} \sigma &= \frac{F}{A} = \frac{2258}{\pi(2)^2/4} \\ &= 716.2 \text{ psi} \\ &\quad \underline{\hspace{1cm}} \\ &\quad \hookrightarrow (B) \end{aligned}$$

$$\delta = 2$$

$$\epsilon =$$

$$\epsilon =$$

$$\epsilon = \frac{6}{10} \epsilon = \frac{3}{5} \epsilon$$

$$\delta =$$

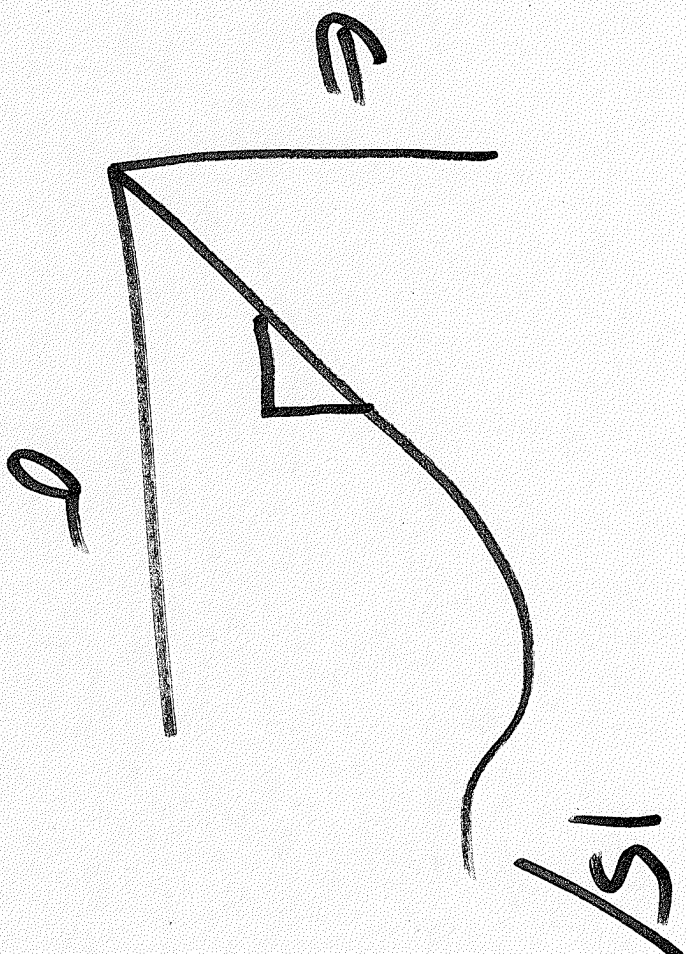
$$\epsilon = \frac{\epsilon}{\delta \cdot L}$$

$$= \frac{(716.2)(15)}{30 \times 10^6}$$

$$\delta =$$

$$3.6 \times 10^{-4}$$

$$(c) \rightarrow (d)$$



44-12) Cook @ Just Betm w/ com 16/

→ CASE 3

Pg A-118

$$Y_{max} = \frac{wL^4}{38EI}$$

Cook @ Just Betm w/ roller

→ CASE 1

$$Y_{max} = \frac{PL^3}{3EI}$$

$$SEI \quad Y_{max} =$$

$$wL \quad PL$$

$$\frac{18 \cancel{30EI}}{\cancel{30EI}} = \frac{PL}{\cancel{3EI}}$$

× EACH SIDE BY
3 EI

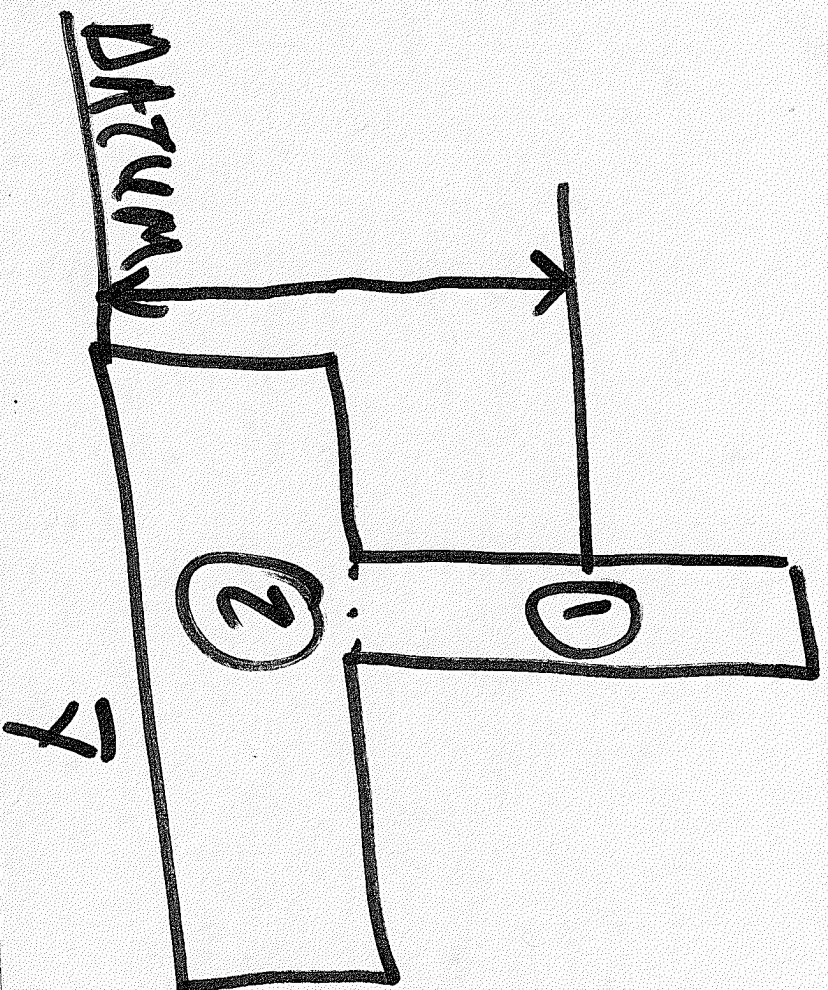
$$\div L$$

$$R_1 = \frac{wL}{18}$$

$$R = \frac{1888(48)}{18}$$

$$= 1888$$

-(B)



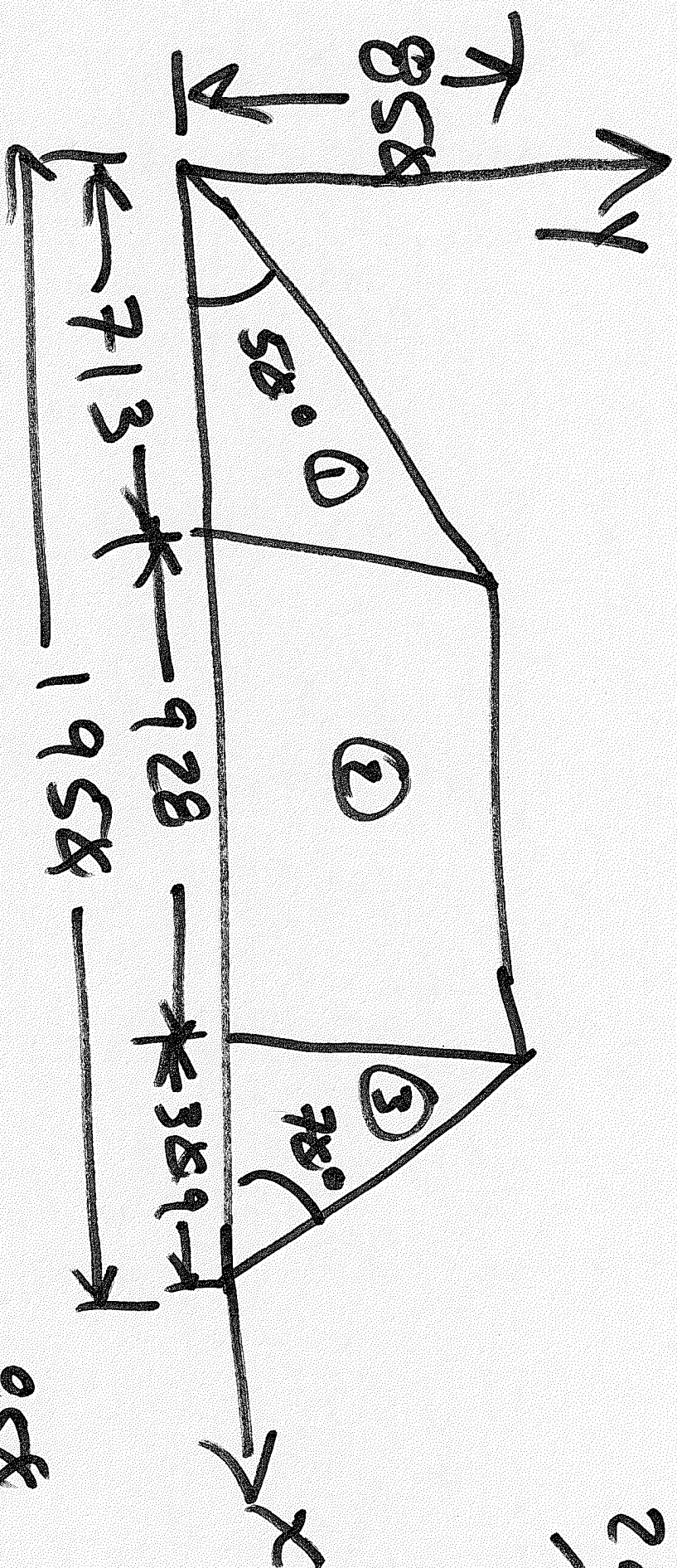
$$\begin{aligned} \textcircled{1} \quad 48 + \frac{175}{2} &= \\ 127.5 \\ \textcircled{2} \quad 48/2 &= 24 \end{aligned}$$

A		$\bar{y} A$
$48 \times 175 =$	$892,500$	
7888		
$198 \times 48 =$	$152,880$	
7688		
<u><u>$14,688$</u></u>	<u><u>$1,044,580$</u></u>	

19/

$$\bar{Y} = \bar{Y}_c = \frac{\sum \bar{Y}_A}{\sum A} = \frac{1,844,588}{14,688}$$

$$\boxed{\bar{Y} = 71.5 \text{ mm}}$$



$$\tan 58^\circ = \frac{OPP}{ADJ}$$

$$x_1 = \frac{858}{\tan 58}$$

$$x_1 = 713$$

$$\tan 58^\circ = \frac{858}{x_1}$$

$$\tan 78 = \frac{OPP}{ADJ} = \frac{858}{\gamma_3}$$

$$\gamma_3 = \frac{858}{\tan 78}$$

$$\gamma_3 = 389$$